

REMARKS

Claim 37 has been amended to correct a typographical error. Upon entry of the amendments, claims 1-56, and 103-104 will be pending. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Rejection under 35 U.S.C. §103

A. Claims 1, 5-10, 13-21, 25-27, 30-39, 43-48, 51-56, 103 and 104 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Cao (6,331,111, hereinafter "Cao") in view of Mills et al (WO 99/16136, hereinafter "Mills"). The Applicants respectfully traverse this rejection.

The Office Action alleges that "Cao shows a first substrate 702 and Fig. 7, cups 702a and Fig. 9, LEDs 701b and Fig. 9, electric wiring 704a and 704b, heat sink 402b, Fig. 4b and Fig. 12 (1203 and 1222) and control circuitry, Figs 1a and 1b. Cao does not show using a heat pipe between the substrate and the heat sink. Mills shows a heat pipe 45, pages 14 and 15, and Fig. 5, located between the LED substrate 48 and heat sink 51." The Office Action further alleges it would have been obvious to one of ordinary skill in the art to modify Cao to include a heat pipe as shown in Mills in order to better distribute the heat away from the source.

The Applicant asserts that with specific regard to Figures 4a and 4b and as described in column 8, lines 30-31 of Cao, it is clearly defined that the heat sink 402a or 402b is adjacent to the light source 401, which can therefore be considered to result in direct contact therebetween. In this manner heat generated by the LEDs is transferred from the light source directly to the heat sink. Based on the design of the device as disclosed in Cao, this adjacent configuration of the light source and the heat sink results in a limited number of thermal interfaces that can reduce the transmission of heat from the light source to the heat sink. A worker skilled in the art would readily understand that the introduction of a heat pipe between the light source and the heat sink would increase the number of thermal interfaces between the light source and heat sink

configuration as disclosed by Cao. Therefore, a worker skilled in the art having regard to the configuration of the light source module disclosed by Cao, in light of Mills would not be led directly and without difficulty to the invention as disclosed in independent claims 1, 21 and 38 of the instant application.

Moreover, if a heat pipe was integrated into the device as disclosed in Cao, a physical separation between the light source and heat sink would result. With further reference to Figures 4a and 4b, the heat sink 402a or 402b would therefore be moved towards the right end of the light source module. In column 7, lines 6 to 41, Cao defines the light source module as comprising a light source housing, wherein this housing comprises a flexible section 203 to facilitate bending of the light source module as illustrated in Fig. 2d. If a heat pipe was integrated into the device, the heat sink would be moved to the right side of the light source module with a heat pipe positioned between the heat sink and the light source. As would be known to a worker skilled in the art, a heat pipe is designed to be substantially rigid due to the materials from which it is fabricated. Therefore, in the above configuration, a substantially rigid structure, namely the heat pipe, would be placed along the length of the light source module, thereby impeding the desired flexibility of this module as expressly defined as an object of the invention as described in Cao in column 4. Based on this desired flexibility of the light source module, a worker skilled in the art having regard to Cao in light of Mills would not be led directly and without difficulty to the invention as disclosed in independent claims 1, 21 and 38, currently on file.

The applicant asserts that as claims 5-10, 13-20, 25-27, 30-37, 43-48, 51-56, 103 and 104 depend directly on independent claims 1, 21 and 38, these dependent claims would equally not be obvious to a worker skilled in the art have regard to Cao in light of Mills. Accordingly, Applicants request that this rejection under 35 U.S.C. §103(a) be withdrawn.

B. Claims 2, 22 and 40 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Cao (6,331,111, hereinafter "Cao") in view of Mills et al (WO 99/16136, hereinafter "Mills") as applied to claim 1 above, and further in view of Janzen et al (4,893,354, hereinafter "Janzen"). The Applicants respectfully traverse this rejection.

The Office Action alleges that while the combination of Cao and Mills does not show the use of a diamond substrate, Janzen shows a diamond substrate 25f, Fig. 7, lines 44-48, and that these claims would have been obvious to one of ordinary skill in the art.

The Applicants assert that based on the arguments given above, independent claims 1, 21 and 38 would not have been obvious to a worker skilled in the art having regard to Cao in light of Mills. The Applicants therefore assert that the combination of Cao, in light of Mills and further in light of Janzen does not render claims 2, 22 and 40 obvious, as these claims depend directly on independent claims 1, 21 and 38, respectively. Accordingly, Applicants request that this rejection under 35 U.S.C. §103(a) be withdrawn.

C. Claims 3, 4, 11, 12, 23, 24, 28, 29, 41, 42, 49 and 50 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Cao (6,331,111, hereinafter "Cao") in view of Mills et al (WO 99/16136, hereinafter "Mills") as applied to claim 1 above, and further in view of Kennedy (5,420,768, hereinafter "Kennedy"). The Applicants respectfully traverse this rejection.

The Office Action alleges that the combination of Cao and Mills does not show a metal (aluminum) heat sink and further alleges that Kennedy teaches forming heat sinks from metal, and specifically from aluminum, column 2, line 33 and that these claims would be obvious to one of ordinary skill in the art.

The Applicants assert that based on the arguments given above, independent claims 1, 21 and 38 would not have been obvious to a worker skilled in the art having regard to Cao in light

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of Mills. The Applicants therefore assert that the combination of Cao, in light of Mills and further in light of Kennedy does not render claims 3, 4, 11, 12, 23, 24, 28, 29, 41, 42, 49 and 50 obvious as each of these claims depend directly on independent claims 1, 21 and 38, respectively. Accordingly, Applicants request that this rejection under 35 U.S.C. §103(a) be withdrawn.

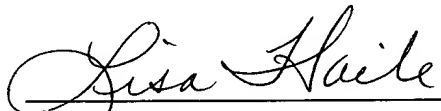
Conclusion

In view of the amendments and above remarks, it is submitted that the claims are in condition for allowance, and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicant's undersigned representative if there are any questions relating to this application.

Check No. 578838 is enclosed in the amount of \$180.00 for the submission of an Information Disclosure Statement. However if any other fees are due, the Commissioner is authorized to charge any fees, or make any credits, to Deposit Account No. 07-1896.

Respectfully submitted,

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